WELDON SPRING ORDNANCE WORKS

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Weldon Spring Ordnance Works History

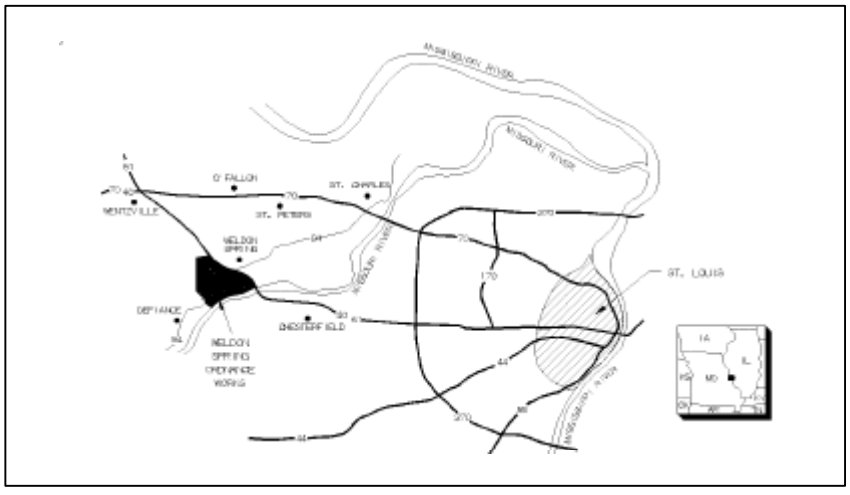
The former Weldon Spring Ordnance Works (WSOW) consists of approximately 17,232 acres of land in western St. Charles County, Missouri just southwest of the town of Weldon Spring. The facility was used to produce explosives for the Army during World War II. Most of the explosive production facilities were located on the 1,655 acres known as the Weldon Spring Training Area. Explosive production began in late December 1941 with six trinitrotoluene (TNT) production lines. By the end of 1942, twelve additional TNT production lines and two new dinitrotoluene (DNT) production lines were placed into operation.

In the 1940's, WSOW had more than 1,038 buildings and 5,200 employees. The facility was composed of eighteen TNT production lines, two DNT production lines, four sulfuric acid concentration plants, four nitric acid concentration plants, 100 earth covered igloos, two water treatment plants, two coal fired power plants, and three wastewater treatment plants. Administratively, the facility was composed of an office complex, hospital, telephone center, military barracks, family quarters, and numerous other support facilities.

TNT was not loaded into shells or casings at WSOW. Instead, TNT powder was shipped to off-site plants for munitions building. It is estimated, from old records, that during the operation of the plant 710,402,850 pounds of TNT and 31,499,125 pounds of DNT were produced. Termination of production was ordered on V-J Day in August 1945.

Open Invitation

The public is invited to attend a meeting of the Restoration Advisory Board (RAB). RAB members have the opportunity to review and comment on environmental cleanup documents associated with WSOW. For information regarding the next RAB meeting, see Page 3.



Environmental Conditions at WSOW

In the years since production of explosives at the WSOW was terminated, contamination at the site, primarily with TNT and DNT, was discovered. Lead was also found to be present in the soil above natural background levels. Approximately 200 cubic yards of contaminated soil remains at the site. This soil is currently being remediated.

Nearly all of the TNT and DNT soil contamination was limited to the Weldon Spring Training Area, which is still owned by the Army. The Army has taken the lead for cleaning up the contamination left behind on the Weldon Spring Training Area and the area now owned by the Missouri Department of Conservation.

Impacted areas in the WSOW have included lagoons, landfills, burning grounds, TNT and DNT production lines, and explosive waste burial areas. Effective remediation of such a wide array of impacted areas has required the input of a diverse team of biologists, engineers, geologists, chemists, risk analysts, and the concerned public.

Recent monitoring of groundwater results show continued low levels of TNT and DNT. Negligible levels of lead and other metals have also been identified in the groundwater, but recent data shows that these concentrations are at levels that meet or are better than the levels set for drinking water standards.

In cooperation with the Environmental Protection Agency (EPA), and the Missouri Department of Natural Resources (MDNR), the Army has completed environmental investigations to determine the nature and extent of contamination in soils and groundwater

Completed Work

The initial focus of the Army's remediation at the WSOW was the soil and pipeline. This focus was made because of the potential human exposure to impacted soils and the potential future physical safety hazard associated with the pipeline. The remediation also served to greatly reduce the migration of contaminants to groundwater. The potential for exposure to impacted groundwater was much less than to impacted soil.

To facilitate a timely remediation of the soil and pipeline, the site was divided into two Operable Units. The soil and pipeline was addressed under Operable Unit 1 (OU-1) and the groundwater is being addressed under Operable Unit 2 (OU-2).

Soils (OU-1)

An incinerator operated from July 1998 to March 1999 and remediated 73,064 tons of excavated soils containing TNT and DNT. Between April 1998 and February 1999 approximately 16 miles (79,364 feet) of wooden pipeline, used to contain water contaminated with TNT, was excavated and incinerated. In May 1999 work was completed to excavate, stabilize, and dispose of 12,500 cubic yards of lead contaminated soil.

During 2002, additional soil contamination was identified in an area designated as Grid T-13. Final remediation of Grid T-13 is scheduled to be executed in October 2003. Remediation will include excavating the impacted soils and transporting them offsite to an approved facility for disposal.

Groundwater/Springs (OU-2)

As of August 2003 a total of 35 rounds of groundwater sampling have been completed. The groundwater and springs at WSOW have been monitored since 1988. Groundwater sampling results continue to show low levels of TNT and DNT. Groundwater data collection is aiding the Army in determining what kind of groundwater cleanup, if any, will be required. The current phase of groundwater monitoring has been designed to document the effects of the OU1 Remedial Action on nitroaromatic concentrations in groundwater.

In addition to continued quarterly groundwater monitoring, a dye tracer study is proposed for spring 2004. The dye tracer study will involve marking groundwater at the former Lagoon Six location by injecting an environmentally safe dye and monitoring various down gradient springs and streams. The purpose is to identify preferential groundwater flow paths in this region of the site. This study is being utilized to determine if further monitoring well installation is required at the Lagoon Six location where current site constraints significantly restrict access without further road development. A dye trace report will be published in the summer of 2004 documenting the dye trace results.

This information, along with groundwater analytical data and other groundwater tests will be documented in the groundwater Feasibility Study (FS) Report. The FS will provide

information that will assist the Army in selection of a groundwater Remedial Action. The FS Report will be finalized in the summer of 2005.

To date, St. Charles County water production wells have not been affected by the groundwater contamination at WSOW. A quarterly report is generated by St. Charles County that documents the analytical results of the county wellfield sampling.

Future Work

The Weldon Spring Training Area is currently managed by Ft. Leonard Wood and is in use by the 89th Army Reserve Support Command. The Army continues to use the property as a training area.

The target date for completion of remedial activities associated with OU-1 is Fall 2003. Once remedial activities are complete, the Army will seek closure of the site with respect to OU-1.

The Army continues to address the groundwater contamination with cooperation of the regulatory agencies. Analysis of the quarterly groundwater and spring monitoring and the dye tracer study is the current stage of the process. An evaluation of the available methods for remediation of the groundwater will be re-initiated next summer. A previous evaluation resulted in a determination that data collected was not sufficient to support selection of a remedial action.

Additional Information

The WSOW Restoration Advisory Board (RAB), which is made up of members of the community, EPA and MDNR personnel, is open to the public. The RAB occurs approximately every 3 months. Public involvement in the decision-making process for the WSOW site is welcome. Future topics include, but are not limited to, current information about the completion of the soil remedial activities, summary of sampling results from recent groundwater monitoring events, and information regarding upcoming events.

If you are interested in participating in the activities of the RAB, please contact the WSOW project manager at the address and/or phone numbers listed at the end of this newsletter. The next WSOW RAB is scheduled for October 16, 2003 at 7pm at the St. Charles Community College Student Center (Room 209). St. Charles Community College is located at 4601 Mid Rivers Mall Drive in St. Peters, Missouri. Please contact the Weldon Spring Ordnance Works Project Manager for directions to the RAB if you are not familiar with the area.

There is also a project webpage that is maintained by the Army. This webpage was first developed to provide information about the remedial action associated with OU-1. The webpage is currently under revision and is scheduled to be updated by the end of October 2003.

The WSOW webpage is located at: http:\\www.nwk.usace.army.mil\weldon\weldon.html

If you have other questions about the Army's work you can write or call the US Army Corps of Engineers Weldon Spring Ordnance Works Project Manager:

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